Complications of Atrial Myxoma

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Case Report

Complications of atrial myxoma☆

Abstract

We present a rare case of multiple intracranial hemorrhages that developed in an otherwise healthy patient, whose significant history was that of a myxomatous tumor that had been removed in a prior cardiothoracic surgery. The presentation of the patient was unique, and the findings were unexpected. The purpose of this article is to bring awareness to an uncommon disease pattern that, if missed or misdiagnosed, could end in significant morbidity, if not mortality. Appropriate imaging of a patient with a similar medical history is of the utmost importance. Delay in diagnosis could be costly.

Cardiac myxomas are benign tumors that comprise 80% of tumors of the heart [1]. Most patients present with varied cardiac, pulmonary, and constitutional symptoms. Many constitutional symptoms such as fatigue, weight loss, and arthralgias are thought to be due to production of IL-6 or symptoms and signs mimicking vasculitis [2]. Myxomas are typically friable or villous, which leads to a higher risk of embolization; they are therefore removed for this reason [2].

A 58-year-old woman with a history of hypertension and anxiety presented to the emergency department (ED) with muscle spasms of her left upper extremity. She was raking her lawn when her symptoms started. Initially, she was seen in the ED and discharged home after symptom resolution. Her symptoms recurred, and she returned to the ED a second time. Her home medications include metoprolol, hydrochlorothiazide, potassium supplements, and alprazolam. Her surgical history was significant for removal of an atrial myxoma 1 year before her presentation.

Vital signs were as follows: temperature, 98.6°F; pulse, 68; respirations, 20; oxygen saturation, 99%; and blood pressure, 160/104. A detailed neurologic examination showed no focal neurological deficits but revealed myoclonal jerking of her left upper extremity; otherwise, result of her examination was normal.

Laboratory data including a complete blood count and chemistry panel were essentially normal. Computed tomography of the head without contrast revealed multiple areas of acute intraparenchymal hemorrhage within the right frontoparietal region (Figs. 1 and 2). At least 3 areas of hemorrhage were identified, the 2 largest measuring 1.1 × 1.3 × 1.1 cm (0.8 mL) and 0.9 × 0.7 × 1.5 cm (0.9 mL). There was also a small amount of subarachnoid hemorrhage in that region. Furthermore, a small amount of subarachnoid hemorrhage was seen in the left frontoparietal and parieto-occipital regions.

The patient was admitted and underwent a cerebral angiogram, which revealed several peripheral arterial aneurysms involving the left anterior and middle cerebral arteries compatible with myxoma embolization. The patient also underwent an electroencephalogram and a transesophageal echocardiogram, both of which had normal results.

The first atrial myxoma was diagnosed premortem by Goldberg et al [3], whose patient had right hemiparesis. Since then, there have been multiple reports of neurological manifestations of myxoma, and on average, these manifestations appear in about 25%-45% of patients [4]. One article in the literature reports that transient ischemic attack is the most common neurological finding, followed by ischemic stroke due to embolism [5].

Consistently, however, there appears to be a classic triad in patients with atrial myxomas: valve obstruction, embolism, and constitutional symptoms (fever, malaise, weight loss) [2]. In the embolic triad, pulmonary embolism or any other potential embolic presentation (of various organ systems) is possible and could cause delayed diagnosis. Because of the diverse nature of the potential presentation, a low threshold for consideration of myxoma in the differential is recommended.

Standard management of these patients includes an electrocardiogram which could show effects of the tumor (atrial enlargement or other arrhythmias). However, without high suspicion, it is likely that the diagnosis would be missed. Laboratory studies are usually not diagnostic; however, they should be ordered. Ultimately, however, an echocardiogram is the most likely way to confirm the diagnosis of atrial myxoma (bedside ultrasonography or formal study dependent on provider comfort level). Computed tomographic scans or cardiac magnetic resonance imaging could help with the diagnosis; however, they are more likely part of an inpatient assessment [6]. Once a myxoma is found, the standard of care is surgical removal to prevent above complications [2].

Valvular symptoms of cardiac myxomas are often related to the secondary effects and dependent on where the myxomas are located. Heart failure symptoms which include paroxysmal nocturnal dyspnea, orthopnea, or dyspnea on exertion are often seen if they are due to mitral valve involvement or peripheral edema and abdominal distention if due to tricuspid valve involvement [2,7]. Symptoms of syncope and near syncope can occur if the tumor obstructs the mitral valve [8]. Neurologic manifestations that are related to embolization can cause patients to present as a cerebrovascular accident (CVA) (ischemic or hemorrhagic) or with aneurysmal disease [9]. Furthermore, aneurysms secondary to myxoma can be a delayed presentation and can be found before resection of myxoma or even after resection of myxoma, as in our case [10,11].

The purpose of this case report is to bring awareness of the delayed complications as a result of myxomatous tumors. Our patient had removal of atrial myxoma a year earlier and presented to the ED with a somewhat muted symptomatology. As an emergency medicine physician, it is important to recognize quickly that those patients who present to the ED with history of atrial myxoma that present with a neurological manifestation are potentially having a life-threatening complication of an otherwise benign cardiac tumor.

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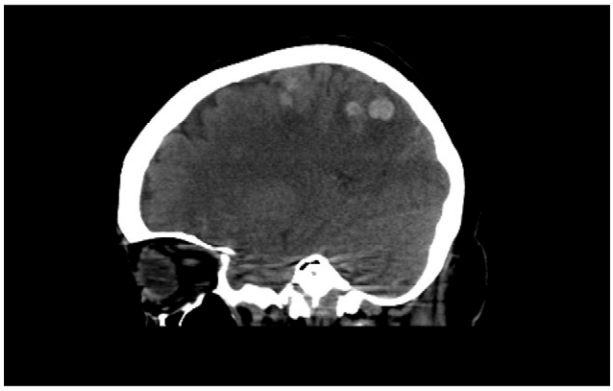

Fig. 1. Computed Tomography of the head (Lateral).

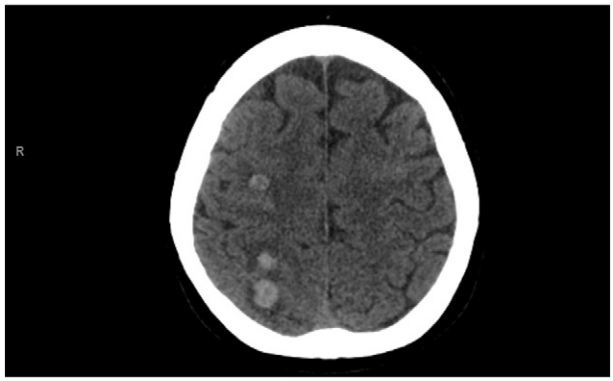

Fig. 2. Intraparenchymal hemorrhage seen in Computed Tomography of the head.

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